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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,930	03/19/2001	Ryuichiro Kodama	1743/180	9650

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EXAMINER

MOHAMED, CHARIOUI

ART UNIT PAPER NUMBER

2857

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,930

Applicant(s)

KODAMA, RYUICHIRO

Examiner

Mohamed Charioui

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

In page 13, line 10 change "230" to --320--.

In page 15, line 24, change "timer 300" to --330--.

In page 22, line 3, change "center 201" to --center 200--.

Appropriate correction is required.

Drawings

2. Figure 1 is objected to because of the following informalities: the label in the box 310 should be changed to --maintenance control section--.

Appropriate correction is required.

Claim Objections

3. **Claim 1** is objected to because of the following informalities: in page 30, line 9 change "comprises of a maintenance control section" to --comprises a maintenance control section--. Appropriate correction is required.

Claim 11 is objected to of the following informalities: in page 32, line 25, change "calculates" to --estimates--.

Claim 11 is objected to of the following informalities: there is insufficient antecedent basis for the limitation "the mobile vehicle" in page 33, line 1 in the claim.

Claim 12 is objected to because of the following informalities: in page 33, line 15, change "if the two records agree with each other" to -- if the two records match each other--.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 7, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knibiehler et al. in view Vines et al.

As per claims 1, 2, 7, 13 and 14, Knibiehler et al. teach a remote maintenance system in which a maintenance center in charge of remote maintenance is connected to an apparatus-to-be-maintained by a communication channel (see Abstract) and a maintenance monitor mechanism is installed in the apparatus-to-be-maintained or on the communication channel (see Abstract and col. 2, lines 10-60); the maintenance monitor mechanism comprises a maintenance control section that controls and carries out remote maintenance of the apparatus-to-be-maintained (see col. 3, lines 10-38 and Fig. 1), a maintenance history storage unit that records maintenance history (see col. 3, line 67 to col. 4, line 39), and a display unit (see col. 2, lines 43-50 and col. 4, lines 45-63); the maintenance time interval τ that correspond to the time when the device being monitored needs maintenance (see col. 4, lines 16-44); a coded data output signal (i.e. word message) about the expiration of the maintenance time is sent to central evaluation unit (see col. 4, lines 45-63).

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Knibiehler et al. do not teach explicitly that the date of the maintenance last carried out is recorded in the maintenance history storage unit.

Vines et al. teach this feature (see col. 5, lines 49-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Vines et al.'s teaching into Knibiehler et al.'s invention, because it would keep records of the day of the month when the maintenance was last carried out on the device being monitored. Therefore, the number of days since the maintenance was last carried out would be determined as well as the number of days left before the next maintenance on the device to monitored is due.

As per claim 3, Knibiehler et al. further teach that the system contains different required maintenance intervals dependent upon the type of maintenance controlled by the maintenance control section, and switches the required maintenance interval corresponding to each type of maintenance (see col. 1, lines 10-41 and col. 4, lines 40-63).

As per claim 5, Knibiehler et al. further teach that the system displays current status if maintenance activity is being carried out (see col. 5, lines 5-57).

5. **Claims 4, 6 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Knibiehler et al. in view of Vines et al. and Bazarnik.

Knibiehler et al. in view of Vines et al. teach the system as stated above except for restrictions concerning the utilization of the apparatus when the time interval, for which the maintenance is due, expires (i.e. Maintenance Problematic).

Bazarnik teaches this feature (see col. 1, lines 54-61 and col. 2, lines 64-68). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Bazarnik's teaching into Knibiehler in view of Vines's teaching because it would display warnings about the utilization of the machine when the maintenance time interval elapses. Therefore, maintenance should be under taken on the machine to assure the continuation of the proper functioning of the machine.

6. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knibiehler et al. in view of Vines et al. and Kaib et al.

Knibiehler et al. in view of Vines et al. teach the system as stated above except that the system judges whether the battery in the maintenance monitor mechanism or in the apparatus-to-be-maintained has run down and displays the result of the judgment.

Kaib et al. teach this feature (see col. 4, lines 9-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Kaib's teaching into Knibiehler in view of Vines's teaching because it would detect the remaining charge of the battery; therefore, the operating time of the battery would be determined and compared to the remaining maintenance time interval of the machine to determine whether the battery needs to be charged.

7. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knibiehler et al. in view of Vines et al. and Moon, Sr.

Knibiehler et al. in view of Vines et al. teach the system as stated above except that the system judges whether the current date and time of the timer in the maintenance monitor mechanism or in the apparatus-to-be-maintained is correct.

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Moon, Sr. teaches this feature (see col. 2, lines 29-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Moon, Sr.'s teaching into Knibiehler in view of Vines's teaching because the system would check the current date and time in the timer to verify its accuracy; therefore, the required maintenance time interval of the machine would be accurately measured.

8. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knibiehler et al. in view of Vines et al. and Hillman et al.

Knibiehler et al. in view of Vines et al. teach the system as stated above except for a mobile vehicle equipped with a Global Positioning System to transmit and display the current position data of the mobile vehicle the display unit via the communication channel.

Hillman et al. teach this feature (see col. 11, lines 26-51). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Hillman's teaching into Knibiehler in view of Vines's teaching because a GPS would determine the location of the mobile vehicle and transmit the data to the monitoring station. Therefore, directions from the mobile vehicle location to the location of the apparatus-to-be-maintained would be determined and displayed so that the mobile vehicle would arrive to the maintenance site in a timely manner before the apparatus to be maintained would experience a down time.

9. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knibiehler et al. in view of Vines et al. and Ito Ryoichi.

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Knibiehler et al. in view of Vines et al. teach the system as stated above except that the system calculates the hours required until the arrival of the mobile vehicle at the location of the apparatus-to-be-maintained, and transmits and displays the required hours on the display unit.

Ryoichi teaches this feature (see Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Ryoichi's teaching into Knibiehler in view of Vines's teaching because the traveling time of the mobile vehicle from its current location to the location of the apparatus-to-be-maintained location would be determined; furthermore, the time when the maintenance personnel would in the location of the apparatus-to-be-maintained location would be determined. Therefore, the downtime of the apparatus-to-be-maintained, before it is maintained to function properly, would be minimized.

Prior art

10. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

Moore ['454] discloses an apparatus and method for monitoring and maintaining mechanized equipment.

Easter et al. ['311] disclose an information system for operating complex plant.

Minnick et al. ['381] disclose a multiple channel communications system.

Myr ['783] discloses a real time vehicle guidance and forecasting system under traffic jam conditions

Contact information

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11. Any inquiry concerning this communication from examiner should be directed to Mohamed Charioui whose telephone number is 703 605-4362. The examiner can normally be reached Monday to Friday 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached at 703 308-1677. The fax phone number for the organization where this application is assigned is 703 305-3431.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose number is 703 308-0956.

Mohamed Charioui

3/13/03


MARC S. HOFF
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